

REMARKS

Summary of the Office Action

In the Office Action dated March 10, 2005, receipt is acknowledged of priority papers submitted under 35 U.S.C. 119(a)-(d). The drawings stand objected to for failing to comply with 37 CFR 1.84(p)(5) because they do not include a resist pattern 106. The drawings stand objected to under 37 CFR 1.83(a) because they do not show an etching object layer on the substrate as recited in claims 1, 6-9, and 12. The drawings stand objected to because of numeral 300 in FIG. 4D and numeral 130 in FIG. 4E.

The specification is objected to because of a typographical error at paragraph [0027]. The Office Action also suggests that a resist material being flattened by a doctor blade is a more accurate description than a cliché being flattened. The specification is further objected to under 37 CFR 1.75(d)(1) and MPEP § 608.01(o) because the specification does not provide support for the organic etching object layer recited in claim 9.

Claims 2-4, 6, 10, 11 and 12 stand objected to because of alleged informalities. Specifically, a term “substrate” recited in claims 2-4 is allegedly unclear. The phrase “contacting the substrate where an etching object layer is formed onto the cliché” in claim 6 is allegedly awkward. The recitation that the surface of the cliché is flattened using a doctor blade in claims 10, 11, 12 is allegedly inaccurate. The phrase “a second groove structure” in lines 5-6 of claims 11 is to be replaced with “the second groove structure.” The language “forming a buffer layer” in claim 12 is allegedly unclear.

Claims 1, 5, and 7-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by European Patent Application Publication No. EP 0 471 628 A1 by Nagae et al.

(hereinafter “Nagae”). Claims 1-2, 4, 6, and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,374,733 B1 to Hayama et al. (hereinafter “Hayama”). Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagae in view of U.S. Patent No. 5,662,041 to Kleist (hereinafter “Kleist”).

Summary of the Response to Office Action

Applicants filed concurrently herewith a Submission of Replacement Drawing Sheets. Applicants amend the specification as provided herein to address each of the objections raised by the Office Action. Applicants amend claims 1, 2, 6, and 10-12 as provided herein to address each of the objections raised by the Office Action. Applicants traverse the rejections under 35 U.S.C. § 102(b) and under 35 U.S.C. § 103(a).

Revocation of Original Power of Attorney/Grant of New Power of Attorney

Applicants filed concurrently herewith a Revocation of Original Power of Attorney and Grant of New Power of Attorney. As set forth therein, Assignee revokes all previous Power of Attorney in the above-referenced application and grants its Power of Attorney to the registered practitioners of Heller Ehrman White & McAuliffe LLP included in **Customer Number 26633** to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number.

The Objections to the Drawings

The drawings stand objected to for failing to comply with 37 CFR 1.84(p)(5) because they do not include a resist pattern 106. The drawings stand objected to under 37 CFR 1.83(a) because they do not show an etching object layer on the substrate as recited in claims 1, 6-9, and 12. The drawings stand objected to because of the numeral 300 in FIG. 4D and the numeral 130 in FIG. 4E.

Applicants file concurrently herewith a Submission of Replacement Drawing Sheets. In the replacement drawing sheets, FIG. 4E is amended to depict that first, second and third resist patterns 106a, 106b, and 106c are included in the resist pattern 106, as recited in paragraph [0034] in the as-filed specification. Applicants respectfully submit that the amended drawings fully comply with the requirements of 37 CFR 1.84(p)(5).

Applicants add new figure FIG. 4F. FIG. 4F shows an etching object layer 135 formed on the substrate 130, and first, second and third resist patterns 106a, 106b, and 106c formed on the etching object layer. Applicants respectfully submit that the subject matter depicted by FIG. 4F is described in the as-filed specification at paragraphs [0035] and [0036]. Specifically, the first sentence in original paragraph [0035] recites: “an etching object layer (not shown) for forming a pattern may be formed on the substrate 130.” The first sentence in original paragraph [0036] recites: “[t]he metal layer or the insulating layer may be etched by common etching processes using the resist patterns formed thereon as a mask” (Emphasis added). Thus, Applicants respectfully submit that no new matter is introduced in this new FIG. 4F. Applicants further submit the submitted drawings, including FIG. 4F, fully comply with the requirements of 37 CFR 1.83(a).

In the replacement drawings, numeral 140 has replaced numeral 300 in FIG. 4D. Numeral 130 has replaced numeral 140 in FIG. 4E. In light of these amendments, Applicants respectfully submit that the replacement drawings are non-objectionable. Accordingly, Applicants respectfully request that the objections to the drawings be withdrawn.

The Objections to the Specification

The specification stands objected to because of a typographical error at paragraph [0027]. The Office Action also suggests that a resist material being flattened by a doctor blade is a more accurate description than a cliché being flattened. The specification is further objected to under 37 CFR 1.75(d)(1) and MPEP § 608.01(o) because the specification does not provide support for the organic etching object layer recited in claim 9. Applicants amend the specification as provided herein to address each of the objections raised by the Office Action.

Applicants amend the specification at paragraph [0027] to recite “105b” rather than “105n.” Applicants also amend paragraph [0027] to recite “cliché 100” rather than “cliché 103.” Thus, the typographical error indicated by the Office Action is corrected.

Applicants amend paragraphs [0011], [0029] and [0037] to describe that the resist material is being flattened rather than the cliché. This amendment is supported by the as-filed drawings, particularly FIG. 4B showing a doctor blade 132 applied against and flattening a resist material 131. Thus, Applicants respectfully submit that no new matter is added to the specification by these amendments.

Further, Applicants amend paragraph [0034] of the specification to recite “first groove 105a” rather than “first groove 105b”, and “second and third grooves 105b and 105c” rather than “first and second grooves 105b and 105c.” These amendments are supported by recitations throughout the as-filed specification, for example, the last sentence in paragraph [0027]. Thus, Applicants respectfully submit that no new matter is added to the specification by these amendments.

Applicants further amend paragraph [0035] to recite “etching object layer 135” in accordance with the newly added FIG. 4F. As discussed above with regard to the newly added FIG. 4F, this amendment does not introduce new matter. Moreover, Applicants amend paragraph [0035] to recite “The etching object layer may include an organic layer.” The subject matter of this amendment is recited in the as-filed specification in original claim 9. Thus, this is not new matter. In light of this amendment, Applicants respectfully submit that the specification fully complies with the requirements of 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

The Objections to the Claims

Claims 2-4, 6, 10, 11 and 12 stand objected to because of alleged informalities. Applicants amend claims 1, 2, 6, and 10-12 as provided herein to address each of the objections raised by the Office Action.

The Office Action states that the term “substrate” recited in claims 2-4 is unclear. Applicants amend claims 1 and 2 as provided herein to address this objection. Specifically, Applicants amend claim 1 to recite “a substrate of the liquid crystal

display.” Applicants amend claim 2 to recite “forming a buffer layer on the cliché substrate.”

The Office Action states that the phrase “contacting the substrate where an etching object layer is formed onto the cliché” in claim 6 is awkward. Applicants amend claim 6 to recite “substrate of the liquid crystal display device” to make it clear that, in embodiments if the present invention as claimed in claim 6, the etching object layer is formed on the substrate of the liquid crystal display device. Moreover, Applicants amend claim 6 to recite “contacting the etching object layer formed on the substrate of the liquid crystal display device with the cliché” to improve readability. These amendments are supported by the recitation at page 12, paragraphs [0035] and [0036] of the as-filed specification.

The Office Action states that the recitation that the surface of the cliché is flattened using a doctor blade in claims 10, 11, 12 is inaccurate. Applicants amend claims 10-12 to recite “flattening the resist material” in accordance with the drawings.

The Office Action suggests that the phrase “a second groove structure” in lines 5-6 of claim 11 should be replaced with “the second groove structure.” Applicants amend claim 11 to recite “the second groove structure” rather than “a second groove structure.”

The Office Action states that the language “forming a buffer layer” in claim 12 is unclear. Applicants amend claim 12 as provided herein to differentiate the cliché substrate from the substrate of the liquid crystal device and clarify that the buffer layer recited claim 12 is formed on the cliché substrate, in accordance with FIG. 4A.

Applicants respectfully submit that the amendments to claim 12 are supported by the originally filed drawings, for example FIGs. 4A-4E and FIGs. 5A-5D, and by the

recitation at least at pages 10-11 of the as-filed specification. Thus, no new matter is introduced by these amendments.

Applicants' Response to the Rejections Set Forth in The Office Action

A. The Rejection under 35 U.S.C. § 102(b) based on Nagae

Claims 1, 5, and 7-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nagae. Applicants respectfully traverse this rejection as being based on a reference that neither teaches nor suggests the novel features recited in independent claims 1 and 11.

For example, in embodiments of the present invention as recited in independent claims 1 and 11, a resist material is filled into the first and second groove structures of the cliché. In contrast, as depicted in FIG. 1 of Nagae, and as discussed at column 4 in reference to Preferred Embodiment No. 1 of Nagae, a printing ink, rather than a resist material, is filled into the grooves of Nagae's intaglio plate 11. Moreover, as depicted in FIGs. 4(b)-4(d), and as discussed at column 5 of Nagae, the printing ink 64 of Nagae is distinct from a photo-resist material 63. Thus, Applicants respectfully submit that Nagae does not teach or suggest filling a resist material into the first and second groove structures of the cliché.

Furthermore, in embodiments of the present invention as recited in independent claims 1 and 11, the resist material filled into the first and second groove structures of the cliché is transferred onto an etching object layer of a substrate of the liquid crystal display device. In contrast, as depicted in FIGs. 4(b)-4(d), and as discussed at column 5 of Nagae, the photo-resist layer 63 of Nagae is applied onto the glass base 61 of Nagae,

and not transferred from the grooves of Nagae's intaglio plate 11. Specifically, Nagae states at column 5, lines 20-26: "Figure 4(a) shows a glass base 61 having a top fabricating film layer of polysilicon 62 . . . film 63 is formed on the top surface of the layer with a positive type photo-resist. Pattern printing is carried out as described in Preferred Embodiment No. 1 using an ink 64." Thus, Applicants respectfully submit that Nagae does not teach or suggest applying the resist material filled into the first and second groove structures of the cliché onto an etching object layer of a substrate of the liquid crystal display device.

In view of the foregoing, Applicants respectfully submit that Nagae does not teach each feature of independent claims 1 and 11. Applicants further submit that dependent claims 5, and 7-10 are not anticipated by Nagae for at least the reason that they include the novel features recited in independent claim 1. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 1, 5, and 7-11 under 35 U.S.C. § 102(b).

B. The Rejection under 35 U.S.C. § 102(b) based on Hayama

Claims 1-2, 4, 6, and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hayama. Applicants respectfully traverse this rejection as being based on a reference that neither teaches nor suggests the novel features recited in independent claims 1 and 12.

For example, in embodiments of the present invention as recited in independent claims 1 and 12, a resist material is filled into the first and second groove structures of the cliché. In contrast, as depicted throughout the figures of Hayama, a conductor paste (for example, conductor paste 42 in FIGs.2(a-b), 3(a-b), 4(a-b), and 5(a-b); and conductor

paste 142 in FIGs. 16, and 17(a-b)), rather than a resist material, is filled into the grooves of the intaglio of Hayama (specifically, grooves 13 of intaglio 40 in FIGs. 2(a-b), 3(a-b), 4(a-b), and 5(a-b); and grooves 113 of intaglio 140 in FIGs. 16, and 17(a-b)). Thus, Applicants respectfully submit that Hayama does not teach or suggest filling a resist material into the first and second groove structures of the cliché.

Furthermore, in embodiments of the present invention as recited in independent claims 1 and 12, the resist material filled into the first and second groove structures of the cliché is transferred onto an etching object layer of a substrate of the liquid crystal display device. In contrast, as depicted in FIGs. 8 and 20 of Hayama, a dried conductor paste is transferred from the intaglio of Hayama to the substrate in Hahama. Specifically, in FIG. 8, a dried conductor paste 43 is transferred from the intaglio 40 onto the ceramic substrate 2 of Hayama (see the discussion at column 6, lines 53-57 of Hayama). In FIG. 20, a dried conductor paste 143 is transferred from the intaglio 140 onto the ceramic substrate 102 of Hayama (see the discussion at column 11, lines 19-29 of Hayama). Thus, Applicants respectfully submit that Hayama does not teach or suggest applying the resist material filled into the first and second groove structures of the cliché onto an etching object layer of a substrate of the liquid crystal display device.

In view of the foregoing, Applicants respectfully submit that Hayama does not teach each feature of independent claims 1 and 12. Applicants further submit that dependent claims 2, 4, and 6 are not anticipated by Hayama for at least the reason that they include the novel features recited in independent claim 1. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 1-2, 4, 6, and 12 under 35 U.S.C. § 102(b).

C. **The Rejections under 35 U.S.C. § 103(a)**

Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagae in view of U.S. Patent No. 5,662,041 to Kleist (hereinafter "Kleist").

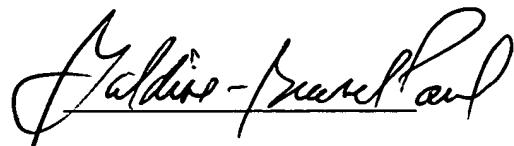
Applicants respectfully submit that claims 2-4 are allowable at least because of their dependence upon allowable independent claim 1, and for the additional features that they recite. Applicants further submit that Kleist fails to cure the deficiencies of Nagae with regard to independent claim 1, upon which claims 2-4 depend, respectively.

Accordingly, Applicants respectfully request that the rejection of claims 2-4 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the above amendment and remarks, Applicants respectfully request reconsideration, withdrawal of all rejections and the allowance of all pending claims. The Examiner is invited to contact Applicants' representative for any reason related to the advancement of this case.

Respectfully submitted,



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IN THE DRAWINGS:

Applicants filed concurrently herewith a Submission of Replacement Drawing Sheets. In the replacement drawing sheets, FIGs. 4D and 4E are amended and FIG. 4F is added as discussed in the REMARKS portion of this response. No new matter has been entered.